

REMARKS

In response to the above-identified Office Action, Applicants amend the application and seek reconsideration thereof. In this response, Applicants amend Claim 1. Applicants do not add any new claims or cancel any claims. Accordingly, Claims 1-17 are pending.

I. Claims Rejected Under 35 U.S.C. § 103(a)

Claims 1-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,570,881 issued to Lustenberger (“Lustenberger”) in view of U.S. Patent No. 5,003,295 issued to Kleven (“Kleven”). Applicants respectfully disagree for the following reasons.

To establish a *prima facie* case of obviousness, the Examiner must show the cited references, combined, teach or suggest each of the elements of a claim. Amended Claim 1 recites “ice detection assembly intended to be installed on an aircraft, comprising a vibrating finger and a mast, the vibrating finger extending into the air from the mast and capable of being vibrated by vibration means at a resonant frequency that is sensitive to an ice deposit on its surface, comprising a cooling system capable of cooling at least part of the vibrating finger.” Applicants submit that, at a minimum, Lustenberger in view of Kleven does not teach or suggest the vibrating finger and the cooling system as recited by Claim 1.

Lustenberger does not teach a vibrating finger extending into the air from the mast and a cooling system capable of cooling at least part of the vibrating finger. Rather, Lustenberger discloses a two-dimensional flexible membrane, i.e., a diaphragm, which vibrates at a resonant frequency sensitive to ice deposit on its surface (Figs 1-3 and col. 3, lines 2-11). The diaphragm is different from the recited vibrating finger at least in that the diaphragm is two-dimensional membrane and the vibrating finger is a three-dimensional object. Thus, the cooling system taught by Lustenberger is capable of cooling a two-dimensional diaphragm, not a three-dimensional vibrating finger (col. 4, lines 43-45).

Further, Lustenberger does not teach or suggest that the ice detector extends into the air from a mast as recited in Claim 1. Lustenberger at most mentions that the ice detector may be arranged at or near the engines and on the wings of the airplane (col. 4, lines 14-15), but nothing more is said about the manner of arrangement. The Examiner suggests that the ice detector of Lustenberger may be mounted on a probe as taught by Kleven. Applicants respectfully submit that the proposed combination of Lustenberger and Kleven is inappropriate for the following reasons.

To modify or combine references, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See MPEP § 2143.01. Kleven discloses an ice detection assembly including a strut 14 which may be characterized as a mast. A thermal member 30 including a flat sensing surface 32 is integrated into the strut 14 (col. 2, lines 12-14 and Fig. 1). Kleven teaches that the thermal member 30 is located in a notch formed along the strut's leading edge for protection of the thermal member from damage caused by physical hazards such as hail, birds, or airborne debris (col. 2, lines 50-54). Thus, Kleven explicitly teaches away an ice detector extending into the air from a mast because this would expose the ice detector to physical hazards. Combining the ice detector of Lustenberger with the probe of Kleven would produce a two-dimensional diaphragm mounted in a notch at the leading edge of the probe. As there is no suggestion or motivation for the recited vibrating finger extending into the air from a mast, the proposed combination of Lustenberger with Kleven is inappropriate.

Additionally, Kleven also fails to teach or suggest the recited vibrating finger and a cooling system capable of cooling at least part of the vibrating finger. The sensing surface 32 taught by Kleven is a two-dimensional flat surface, not a three-dimensional vibrating finger. Further, Kleven only propose a means for modifying the air temperature distribution around the two-dimensional sensing surface 32, but not for cooling at least a part of a three-dimensional vibrating finger (col. 5, lines 7-38 and Figs. 3 and 4). Thus, Lustenberger in view of Kleven does not teach or suggest each of the elements of Claim 1.

Accordingly, reconsideration and withdrawal of the obviousness rejection of Claim 1 are requested.

In regard to Claims 2-17, these claims depend from independent Claim 1 and incorporate the limitations thereof. Thus, at least for the reasons mentioned in regard to Claim 1, Claims 2-17 are not obvious over Lustenberger in view of Kleven. Accordingly, reconsideration and withdrawal of the obviousness rejection of Claims 2-17 are requested.

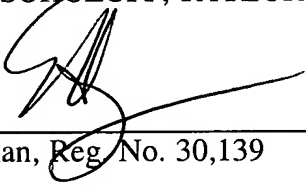
CONCLUSION

In view of the foregoing, it is believed that all claims now are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207 3800.

Respectfully submitted,

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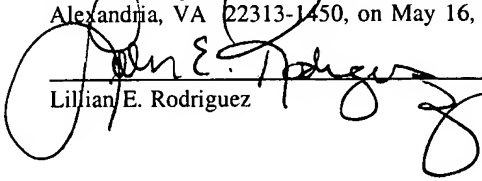
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 16, 2005.


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